

Lecture Module - Data Acquisition

ME3023 - Measurements in Mechanical Systems

Mechanical Engineering

Tennessee Technological University

Topic 2 - DAQ Hardware and Applications

Topic 2 - DAQ Hardware and Applications

- Signal Types and DAQ
- Available Hardware
- Software Integration
- —

Signal Types and DAQ

Single-Ended Signals

The **signal** is measured as a voltage between a *single* conductor and the **ground** which must be carried on a separate conductor or wire.

Double-Ended (Differential) Signals

The **signal** is measured as the difference between two voltages (*double*) carried on separate conductors, or wires.

Signal Types and DAQ

Single-Ended Signals

Pros:

Cons:

Double-Ended Signals

Pros:

Cons:

Available Hardware

- National Instruments
- Measurement Computing
- dSPACE
- Arduino or other

Software Integration

- National Instruments - L
- Measurement Computing
- dSPACE
- Arduino or other

Software Integration

some reference

